Horticulture & Crop Science Dept. Ser. 671 December 1997

LEEK CULTURAL AND CULTIVAR TRIAL - 1997

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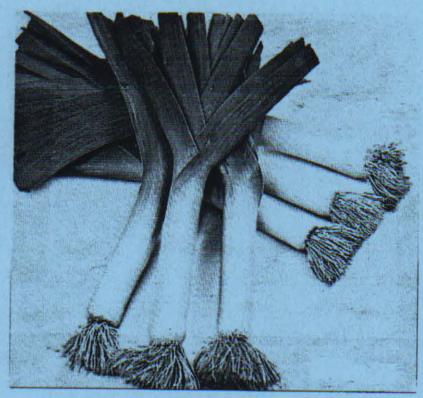

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Leek Cultivar Trial 1997

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Objective To evaluate cultivars for potential use under Ohio conditions.

Methods: Seed companies were contacted in late January for possible participation in this trial. Seventeen cultivars were sent and seeded in the greenhouse located at the Wooster campus March 6, 1997. Plants were grown in 288 square deep Landmark trays using Metro Mix 360 as the sodless media. Once the plants had reached the 1st leaf stage a continuous fertilizer program was enacted using Peter 15-16-17 water soluble fertilizer. A 50 ppm rate was used continuously throughout the growing time. Plant tops were trimmed to 6 inches twice during the greenhouse growth. Plants were grown for eight weeks then removed from the tray, placed in wooden baskets and transported to the Muck Crops Branch for transplanting May 9th.

Field preparation began in April; Field plowing, broadcasting 800 lb 17-17-17, and disking the fertilizer in. Final field preparation was done just prior to transplanting. Field was disked and floated. Transplanting was accomplished using a Old Maid Holland transplanter. Plots consisted of three row 20 ft plots spaced 20 inches between runs. Plants were spaced four inches between plants. Once transplanted a half an inch of irrigation water was applied to set the plants. From that point on all commercial field growing practices were employed. Pesticides were applied as needed to ensure weed, insect and disease control. Each cultivar was replicated randomly three times. Harvesting was done by hand removing ten plants out of the middle row of each plot.

Results: Eight cultivars are worthy of trial on a commercial basis: Tadorna, Alcazar, Lancelot, Otina, Firena, Albanistar, RZ-L, and Snowstar. Albanister, RZL, and Snowstar are considered early cultivars. Otina, Ferena and Lancelot are considered mid-season, Tadoma and Alcazar are considered late. Snowstar seed is available on a limited scale, therefore, cultivars RZL and Albanistar may fit as a replacement. Use caution in the amount of these cultivars trialed on your farm. These may not fit into your operation.

Acknowledgment
Thank you to the OVSFRDP for their financial support to this project.

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Table 1. Leek Cultivar Trial 1997

Cultivar	*Source*	*Foliage Color 1=Green 3=Blue Green 5=Blue*	*Uniformity 1=Good 5=Poor*	*Total wt/pt (g)*	*Trimmed wt/pt (g)*	*Trim Loss (18 in) (%)*	*Shank Width/pt (mm)*	*Shank Length/pt (mm)*	*Comments*
Tadorna	Johnny's	4.00	1.00	387.26	296.01	24.00	31.52	105.00	grows upright, very uniform, a lot of maggot damage
Pancho	Johnny's	3.00	2.00	385.90	279.21	28.00	32.66	119.00	grows upright, very brittle
Carina	Rogers/Sandoz	4.00	2.00	315.53	292.83	7.00	30.59	98.98	upright growth, short, no future
Otina	Rogers/Sandoz	2.00	2.00	351.85	285.11	19.00	32.22	127.59	grows upright, a little small, no trash, may need more time to grow
Lancelot	Bejo	3.00	3.00	371.37	308.72	17.00	32.28	124.26	grows upright, no trash, a little small
Ramona	Bejo	5.00	5.00	332.78	282.39	15.00	32.34	121.26	grows very open, very crooked, a lot of maggot damage
Pinola	Bejo	5.00	4.00	379.09	304.18	20.00	33.10	105.35	short, grows very open, a lot of breakage
Ardea	EnzaZaden	3.00	1.00	355.03	299.64	16.00	34.92	121.18	grows upright, hardly any trash
Arena	EnzaZaden	5.00	4.00	289.20	247.43	14.00	26.00	106.61	very small, tops are very brittle, no future
Firena	EnzaZaden	3.00	3.00	350.94	286.93	18.00	30.71	137.63	grows upright, hardly any trash
Albanistar	EnzaZaden	1.00	1.00	428.12	367.74	14.00	38.26	132.11	grows upright, hardly any trash, easy to pull and trim
Alcazar	EnzaZaden	5.00	4.00	359.57	280.12	22.00	29.82	129.91	grows upright, some breakage, pulls easy
Almiros	Rijkzwaan	5.00	3.00	286.93	237.44	17.00	23.45	109.05	grows open, very brittle, no future
RZ-L	Rijkzwaan	1.00	1.00	440.38	355.96	15.00	35.26	130.29	grows upright, pulls easy, easy to trim
Altivo	Rijkzwaan	3.00	4.00	381.36	305.09	20.00	31.75	134.67	long wide shank, easy to pull and trim
Snowstar	EnzaZaden	1.00	1.00	404.06	325.97	19.00	37.15	137.74	grows upright, easy to pull and trim
Gabilan	Liberty	1.00	1.00	363.20	301.91	17.00	31.17	144.76	grows upright, a lot of trash, no future

Seeded: March 6, 1997
Transplanted: May 9, 1997
Harvested: Augusted 5, 1997

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Leek Greenhouse and Field Spacing Trial 1997

The Ohio State University
Horticulture and Crop Science Department
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Mrs. Cindy Wallace

Objective: Evaluate possible production alternative for both greenhouse plug operation and field spacings to enhance leek quality and minimize production costs.

Methods: Greenhouse study

Two cultivars, four plastic trays equal in overall tray size but varying in the number of cells per tray, were cared for in the same manner as the cultivar trial. The larger the cultivar size, the smaller the cell size. Plant tops were mowed twice to stimulate stronger tops and to encourage root production. Before the first mowing plant samples were taken and recorded. At the end of eight weeks plants were removed and placed in wooden baskets and transported to the Muck Crop Branch for transplanting. Transplanting was done in the same manner as the cultivar trial.

Spacing study

Three cultivars were grown in Todd Planter flats (080A), using Metro Mix 360 as the sodless media at the Muck Crops Branch location. Plants were fertilized using a continuous feed program once the first time leaf appeared. Peters 15-16-17 solution was used at the rate of 50 ppm. At the end of 8 weeks, plants were pulled and placed in wooded baskets ready for field transplanting. Plots consisted of three rows 20 ft long and .20 inches between rows. Within row spacing varied between 1 inch to 8 inches between plants depending on the treatment specified. From that point on all commercial field growing practices were employed.

Results: Greenhouse Study: Cell size didn't effect the quality of transplants with the exception of the 512 tray. This tray reduced both top and root weight. However, the preferred plant quality came from the 338 tray. This was strictly just a personal preference. At the final field harvest there was not overall difference in greenhouse plug size.

Spacing Study: Within row spacing effected overall plant quality. As populations increased total and trimmed weight was reduced. Shank width also decreased and shank length increased which indicated crowded conditions. There appears to be little effect once plant populations decreased past four inch within row spacing. The within row spacing of four inches appears to yield maximum plant size and quality with maximum yield potential.

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Table 2a: Leek Greenhouse Plug study

Cultivar	*Source*	*Plug Tray Size*	*Fresh Top wt/pt (mg)*	*Fresh Root wt/pt (mg)*	*Dry Top wt/pt (mg)*	*Dry Root wt/pt (mg)*
Tadorna	Rispens	288	481.50	263.50	43.70	21.90
Tadorna	Rispens	338	541.00	244.80	41.00	16.70
Tadorna	Rispens	406	364.00	219.80	39.80	20.20
Tadorna	Rispens	512	298.30	169.00	34.08	18.80
Snowstar	EnzaZaden	288	578.00	308.80	47.20	25.30
Snowstar	EnzaZaden	338	431.80	241.30	38.90	18.80
Snowstar	EnzaZaden	406	424.50	263.00	40.00	23.30
Snowstar	EnzaZaden	512	328.80	212.00	31.90	20.80

Seeded: March 6, 1997
Samples Taken: April 8, 1997

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Table 2b: Leek Greenhouse Plug study (Field Evaluations)

Cultivar	*Source*	*Plug Tray Size*	*Uniformity 1=Good 5=Poor*	*Total wt/pt (g)*	*Trimmed wt/pt (g)*	*Trim Loss (18 in) (%)*	*Shank Width/pt (mm)*	*Shank Length/pt (mm)*
Tadorna	Rispens	288	1.00	343.68	281.48	25.00	29.52	177.32
Tadorna	Rispens	338	1.00	287.38	243.80	35.00	27.76	132.78
Tadorna	Rispens	406	1.00	306.45	266.02	29.00	28.30	106.83
Tadorna	Rispens	512	1.00	321.43	271.04	28.00	28.05	100.15
Snowstar	EnzaZaden	288	1.00	372.28	307.36	18.00	33.53	146.70
Snowstar	EnzaZaden	338	2.00	325.52	277.85	26.00	29.61	136.12
Snowstar	EnzaZaden	406	1.00	390.44	318.71	15.00	30.99	121.76
Snowstar	EnzaZaden	512	2.00	428.12	335.96	10.00	31.72	124.41

Seeded: March 6, 1997
Transplanted: May 9, 1997
Harvested: Augusted 5, 1997

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Table 3: Leek Spacing Trial 1997

Cultivar	*Source*	*Within row Spacing (in)*	*Total wt/pt (g)*	*Trimmed wt/pt (g)*	*Trim Loss (18 in) (%)*	*Shank Width/pt (mm)*	*Shank Length/pt (mm)*
Otina	Rogers/Sandoz	1.00	223.82	180.24	19.00	26.71	128.97
Otina	Rogers/Sandoz	2.00	296.01	238.35	19.00	30.06	127.56
Otina	Rogers/Sandoz	4.00	441.74	350.94	21.00	36.10	114.20
Otina	Rogers/Sandoz	8.00	463.95	409.51	17.00	43.33	114.01
Tadorna	Rispens	1.00	175.70	142.10	19.00	19.65	120.74
Tadorna	Rispens	2.00	223.82	177.06	21.00	23.77	120.90
Tadorna	Rispens	4.00	323.25	266.50	18.00	32.50	99.69
Tadorna	Rispens	8.00	373.64	177.85	26.00	35.58	99.58
Snowstar	EnzaZaden	1.00	245.16	197.49	19.00	25.32	120.42
Snowstar	EnzaZaden	2.00	261.05	203.39	22.00	27.64	121.64
Snowstar	EnzaZaden	4.00	430.39	355.03	18.00	33.87	117.07
Snowstar	EnzaZaden	8.00	485.78	400.43	18.00	39.86	115.04

Seeded: March 6, 1997
Transplanted: May 9, 1997
Harvested: August 5, 1997

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